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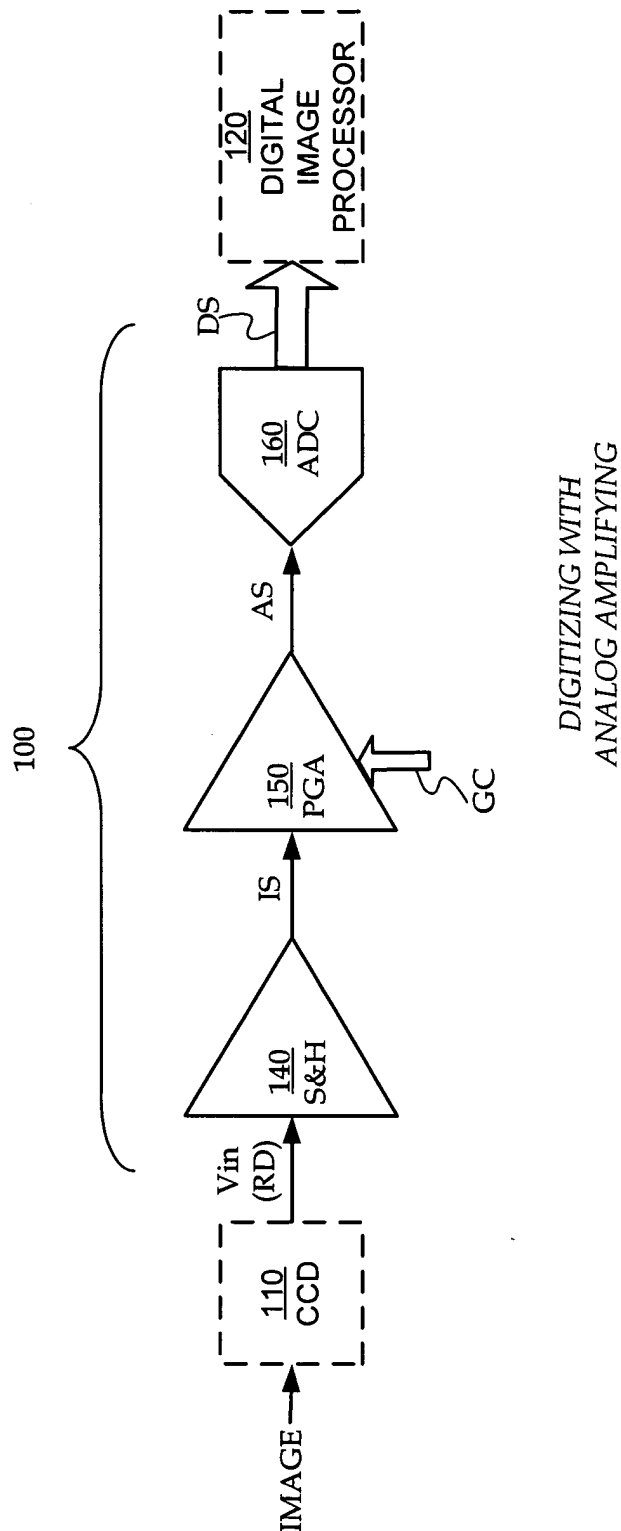


FIGURE 1

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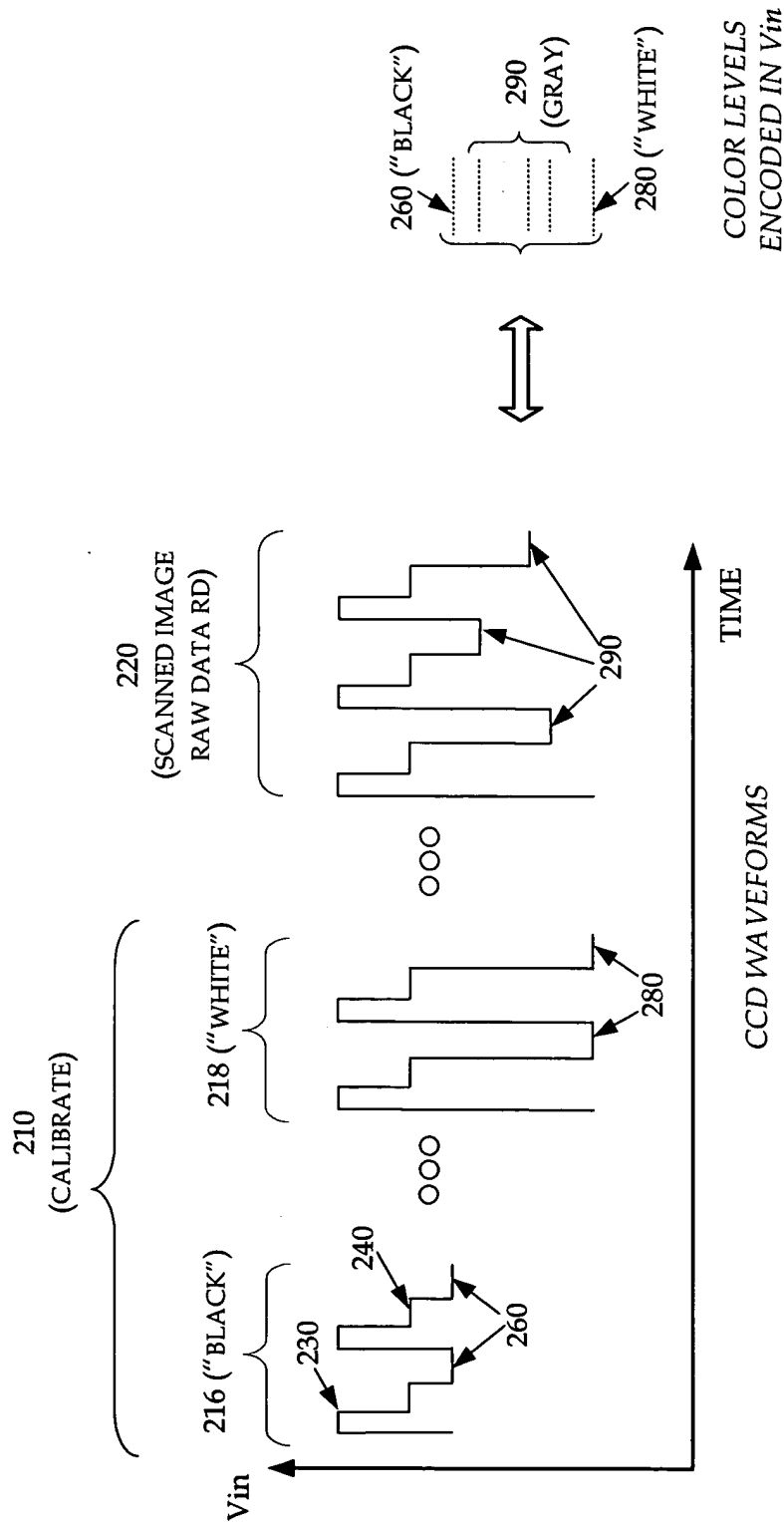


FIGURE 2A

FIGURE 2B

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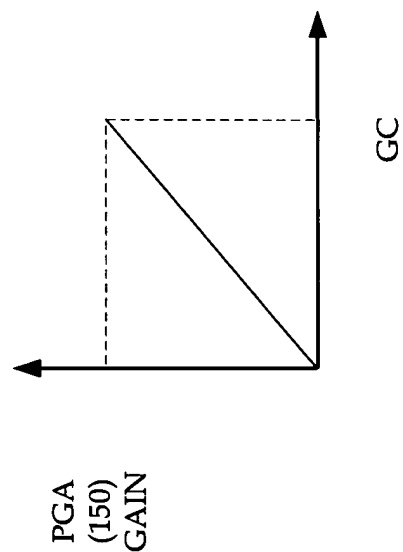


FIGURE 3

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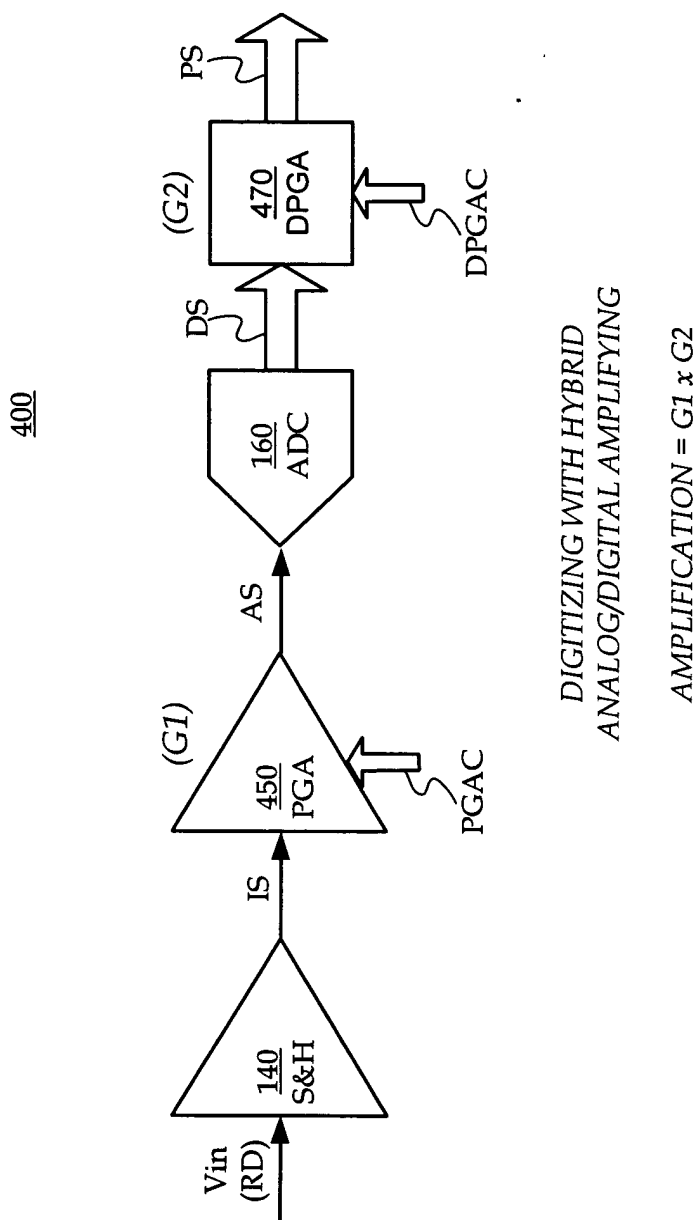


FIGURE 4

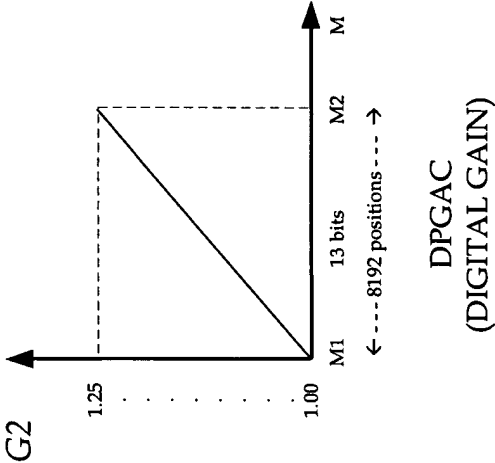


FIGURE 5B

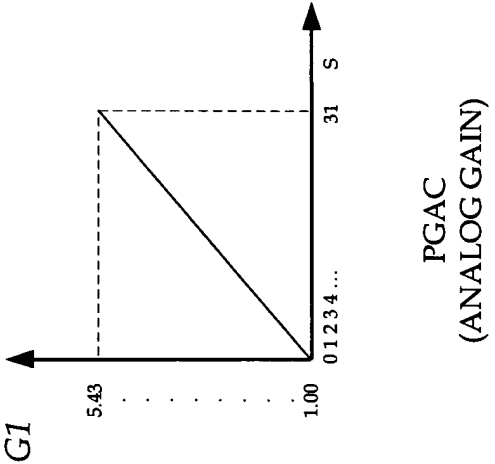


FIGURE 5A

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| <u>s</u> | <u>Gain</u> | <u>Vin(min)</u> | <u>Vin(max)</u> | <u>Gain ratio</u> <u>prev. step</u> |
|----------|------------------------------|-----------------|-----------------|--|
| | $G(s) = 1+s*N$ $N = 7/31$ | $V_n = 0.8/G$ | $V_m = 1/G$ | $R = G(s)/G(s-1)$ |
| 0 | 1 | 0.8 | 1 | n/a |
| 1 | 1.225806452 | 0.652631579 | 0.815789474 | 1.225806452 |
| 2 | 1.451612903 | 0.551111111 | 0.688888889 | 1.184210526 |
| 3 | 1.677419355 | 0.476923077 | 0.596153846 | 1.155555556 |
| 4 | 1.903225806 | 0.420338983 | 0.525423729 | 1.134615385 |
| 5 | 2.129032258 | 0.375757576 | 0.46969697 | 1.118644068 |
| 6 | 2.35483871 | 0.339726027 | 0.424657534 | 1.106060606 |
| 7 | 2.580645161 | 0.31 | 0.3875 | 1.095890411 |
| 8 | 2.806451613 | 0.285057471 | 0.356321839 | 1.0875 |
| 9 | 3.032258065 | 0.263829787 | 0.329787234 | 1.08045977 |
| 10 | 3.258064516 | 0.245544554 | 0.306930693 | 1.074468085 |
| 11 | 3.483870968 | 0.22962963 | 0.287037037 | 1.069306931 |
| 12 | 3.709677419 | 0.215652174 | 0.269565217 | 1.064814815 |
| 13 | 3.935483871 | 0.203278689 | 0.254098361 | 1.060869565 |
| 14 | 4.161290323 | 0.192248062 | 0.240310078 | 1.057377049 |
| 15 | 4.387096774 | 0.182352941 | 0.227941176 | 1.054263566 |
| 16 | 4.612903226 | 0.173426573 | 0.216783217 | 1.051470588 |
| 17 | 4.838709677 | 0.165333333 | 0.206666667 | 1.048951049 |
| 18 | 5.064516129 | 0.157961783 | 0.197452229 | 1.046666667 |
| 19 | 5.290322581 | 0.151219512 | 0.18902439 | 1.044585987 |
| 20 | 5.516129032 | 0.14502924 | 0.18128655 | 1.042682927 |
| 21 | 5.741935484 | 0.139325843 | 0.174157303 | 1.040935673 |
| 22 | 5.967741935 | 0.134054054 | 0.167567568 | 1.039325843 |
| 23 | 6.193548387 | 0.129166667 | 0.161458333 | 1.037837838 |
| 24 | 6.419354839 | 0.124623116 | 0.155778894 | 1.036458333 |
| 25 | 6.64516129 | 0.12038835 | 0.150485437 | 1.035175879 |
| 26 | 6.870967742 | 0.116431925 | 0.145539906 | 1.033980583 |
| 27 | 7.096774194 | 0.112727273 | 0.140909091 | 1.03286385 |
| 28 | 7.322580645 | 0.109251101 | 0.136563877 | 1.031818182 |
| 29 | 7.548387097 | 0.105982906 | 0.132478632 | 1.030837004 |
| 30 | 7.774193548 | 0.102904564 | 0.128630705 | 1.02991453 |
| 31 | 8 | 0.1 | 0.125 | 1.029045643 |

FIGURE 6

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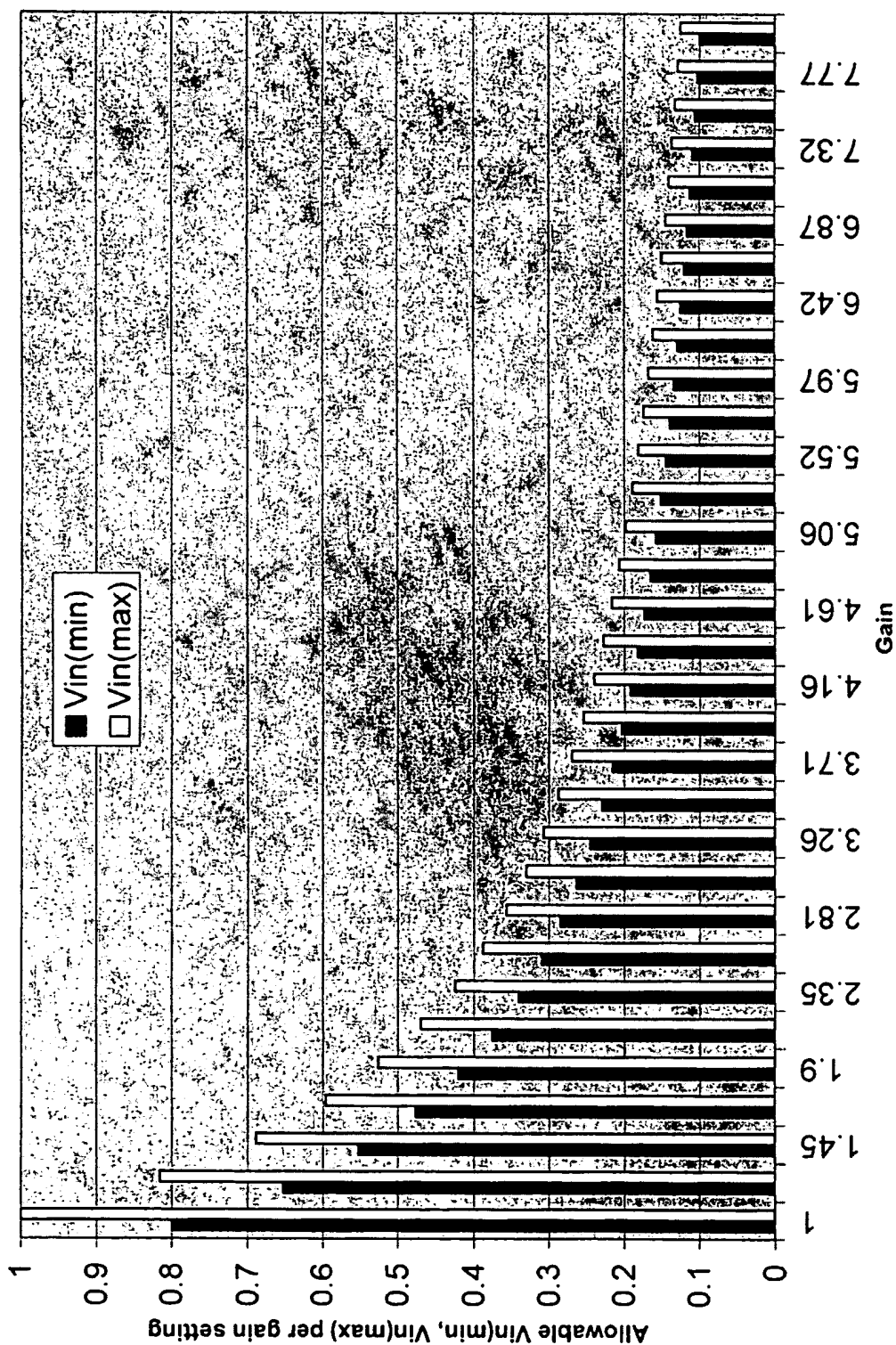
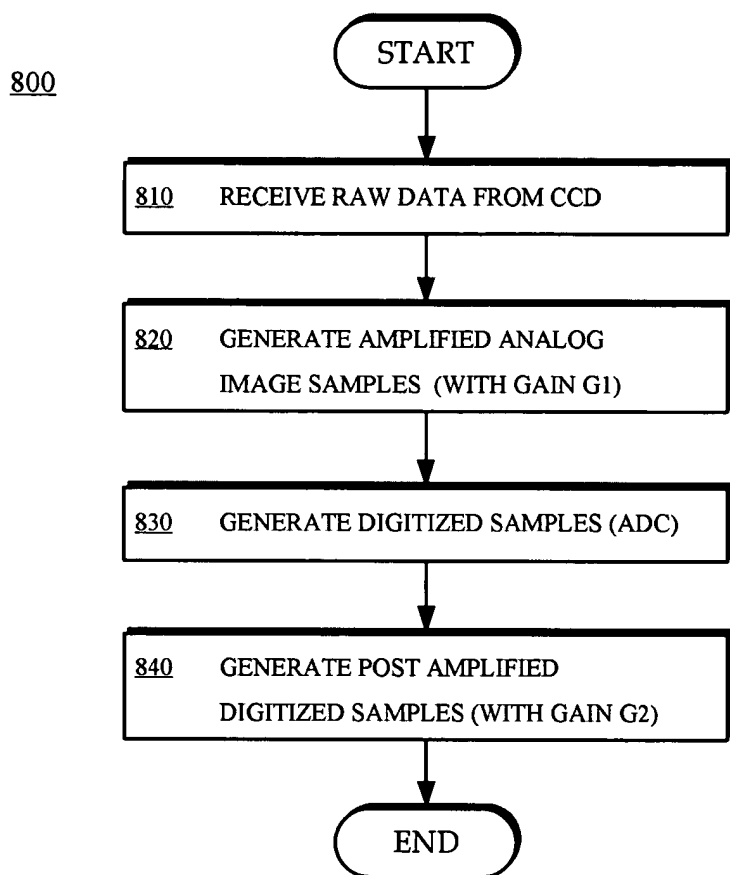


FIGURE 7

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*DIGITIZE
& AMPLIFY*

FIGURE 8

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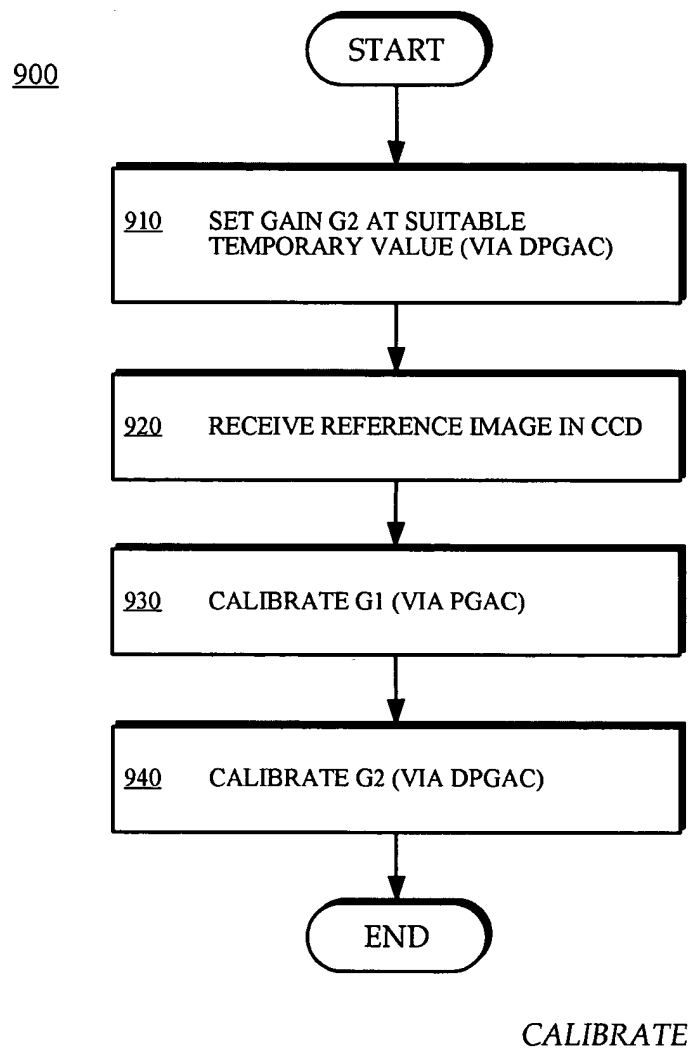


FIGURE 9